Joint Blue Force Situational Awareness (JBFSA)

Advanced Concept Technology Demonstration (ACTD)

U. S. Army Space and Missile Defense Command
Space and Missile Defense Battle Lab

JBFSA Experiment Objective

The objective of the JBFSA ACTD is to improve the capabilities to select, receive, and display current JBFSA systems forging resultant interoperability information into an accurate Common Operational Picture (COP) and provide a relevant level of situational awareness for the warfighter. The operational effectiveness of candidate technologies and supporting Tactics, Techniques, and Procedures (TTPs) will be assessed with a combination of software interface testing and a series of joint live exercises. A Joint Military Utility Assessment (JMUA) will be produced at the conclusion of the exercises and demonstrations to document the warfighter's evaluation of the JBFSA capabilities. Systems and technologies that show promise of providing significant enhancements to operational effectiveness may be rapidly matured to provide interim capabilities at the end of the JBFSA ACTD and their official acquisition and production would be supported by the Transition Plan.

Experiment Description and Functions

The experimentation hypothesis of the ACTD is that the warfighter at the strategic, operational, and tactical levels does not have a system to display all JBFSA data into an accurate COP that is relevant and specific to his mission/operation. Additionally, the warfighter lacks the ability to send tailored, relevant JBFSA data to users that need data. The technical and procedural issues associated with this problem include:

- Non-standard message formats
- Different display software associated with each JBFSA device
- Data translation/format problems
- Inadequate correlation capability
- Lack of supporting dissemination architectures
- Lack of filter capability and processes
- Lack of integration of Non - Line of Sight (NLOS) / Beyond Line of Sight (BLOS) into Line of Sight (LOS) architectures

Benefit to the Warfighter

JBFSA will reduce the fog and uncertainty of war by providing the warfighter with a globally responsive and tailorable capability to identify and track friendly forces in assigned AORs (in near real time), thereby augmenting and enhancing command and control at key levels of command. It is anticipated that the JBFSA architecture will facilitate horizontal integration and support a wide variety of joint missions and operations including dominant maneuver, time critical targeting, and combat search and rescue.

Technical Description

The ACTD will demonstrate a robust architecture leveraging and integrating existing capabilities in addition to new capabilities and technologies with the Global Command and Control System (GCCS) family of systems, other tactical displays, existing tactical data links, and secure networks. The ACTD architecture will ensure compatibility with (personal computer (PC)-based systems by building on the emerging PC-based GCCS 4.x architecture, while ensuring interfaces exist to the existing GCCS 3.x baseline. The ACTD architecture will also leverage the Extensible Markup Language (XML) repository to ensure interoperability with future Web-based versions of GCCS.

This ACTD will:

- Develop an open systems architecture software framework to accommodate future Blue Force Tracking (BFT) devices
- Demonstrate software interfaces and connectivity
- Validate newly developed Concept of Operations (CONOPS) and TTPs
- Integrate current BFT devices into the JBFSA Architecture
- Disseminate and display a consistent Blue Force picture within the GCCS Family of Systems COP and select tactical level display devices
- Interact with additional BFT data dissemination paths
- Integrate Line of Site receivers into the JBFSA architecture including aircraft, Unmanned Aerial Vehicles (UAVs) and Aerostats
- Disseminate select BFT data to the Coalition COP
- Provide an enhanced Mission Management Center Test bed (MMCT) capability and a second MMC as an operational backup.

Experiments/Demonstrations

Tech Demo JWID 03
Ops Demo Jagged Thrust
Ops Demo Foal Eagle 04
Ops Demo Victory Strike

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